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Hardy-type inequalities in arbitrary domains with finite inner radius

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Abstract

We prove Hardy-type inequalities in spatial domains with finite inner radius, in particular, one-dimensional Lp-inequalities and their multidimensional analogs. The powers of the distance to the boundary of a set occur in the weight functions of spatial inequalities. It is demonstrated that the constant is sharp of the L1-inequalities in one-dimensional and multidimensional cases for convex domains. © 2014 Pleiades Publishing, Ltd.

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Keywords

distance to a boundary, finite inner radius, Hardy-type inequality